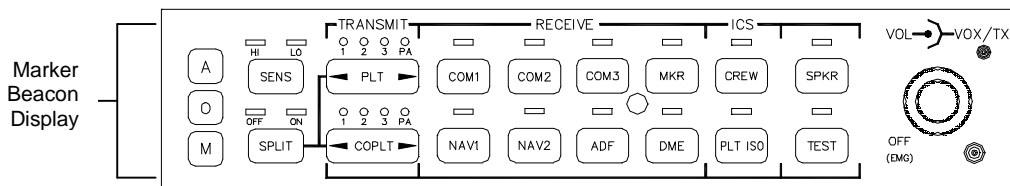


Section 3.0 Operation

3.1 Introduction

Information in this section consists of the functional and operational procedures for the AMS50 Stereo Audio Panel.

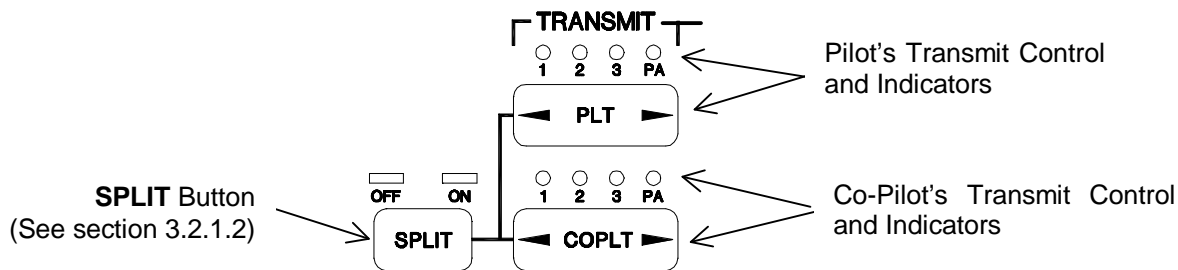
3.2 Controls and Indicators



The front panel controls are two banks of tactile push-button switches with amber backlighting. When correctly selected, the operator will feel the switch click, and the associated LED will illuminate. The function indicator LEDs and Marker Beacon lights feature self-contained photocell dimming (no operator action required), and the backlighting of the push-buttons is controlled with the aircraft dimming.

The functions of the controls will be considered separately in sections 3.2.1 to 3.2.8. below. The associated indicators will be discussed in the relevant sections.

3.2.1 TRANSMIT Functions



The **TRANSMIT** functions are controlled from two transmitter select rocker push-buttons (**PLT** and **COPLT**). Each has the capability to select 1 (COM 1), 2 (COM 2), 3 (COM 3), or PA, and the relevant green LED above the switch will illuminate to indicate the selected transmitter. Pressing the right (?) side of the button will select the option one place to the right of the current selection, and pressing the left (?) side will move the selection one step to the left. The selection options will 'wrap around' – i.e. one step to the right from the PA option will select COM 1, and one step to the left of COM 1 will move the selection to PA. One of four Green LED indicators above each push-button is illuminated to indicate the transmitter selected. The audio from the selected COM is automatically present. See also section 3.2.1.2 – **SPLIT** Button.

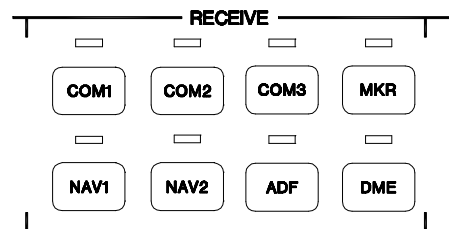
3.2.1.1 **PA** Function

The PA position provides a PA selection to an external amplifier for use as either a loudhailer or Passenger Address system.

3.2.1.2 **SPLIT** Button

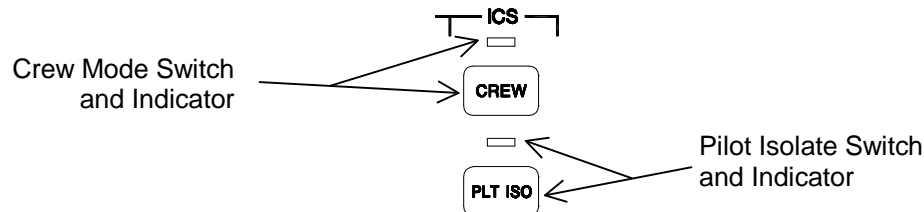
The **SPLIT** function button separates or combines the control of the TX selection buttons. When the **SPLIT** function is active, the 'ON' LED above the switch will illuminate green, and each transmit select button will operate independent of the other to allow different radios to be selected simultaneously. When the **SPLIT** function is not active, operation of either of the two Transmit select buttons will move the pilot's and copilot's selection simultaneously. When the **SPLIT** function is changed from 'ON' to 'OFF', the co-pilot's current selection will change to match the pilot's. The receive LEDs above the COM Receiver Audio push-buttons do not illuminate unless they are specifically selected. Each pilot will only hear the audio from the transmitter they have selected unless the COM Receive Audio push-button is also engaged. Pilot selection of the transmitters can also be made via an optional remote mounted momentary switch.

3.2.2 **RECEIVE** Functions



The three COM receiver audio push-buttons (**COM1**, **COM2** and **COM3**), and five NAV receiver audio push-buttons (**MKR**, **NAV1**, **NAV2**, **ADF** and **DME**) are used for monitoring COM or NAV radio audio. When a push-button is selected, the green LED above it will illuminate to indicate that the audio is on. When **MKR** is selected, the received audio will be the tone associated with the current Marker Beacon (see section 3.2.6). Both pilots hear all selected audio, except in **PLT ISO** mode (see section 3.2.3.2). Passengers hear all selected audio in **ALL** mode only (see section 3.2.3.3).

3.2.3 **ICS** Functions



The AMS50 features three operating modes as outlined below. Intercom (ICS) and music audio will have different muting features depending on the selected ICS mode (see section 3.2.3.4).

3.2.3.1 **CREW** Mode

When the **CREW** button is pressed, the green LED above it will illuminate to indicate that the ICS system is in **CREW** mode. The pilot and co-pilot are isolated from the passengers but retain normal radio operations. The crew and passengers each retain full intercom capabilities within their own groups, but the passengers are prevented from hearing any radio communications while still retaining normal music muting. The crew's music level is automatically set to the preset muted level.

3.2.3.2 **PLT ISO** Pilot Isolate Mode

When the **PLT ISO** button is pressed, the green LED above it will illuminate to indicate that the ICS system is in Pilot Isolate mode. In this mode, the pilot is separated from the intercom network, allowing confidential radio communications without interference from the passenger intercom or music. While in **PLT ISO** mode the pilot maintains complete control of all the radio functions of the audio panel. The co-pilot is connected with the passengers, and is restricted from all radio operations.

3.2.3.3 All Mode

If neither the **CREW** nor **PLT ISO** buttons is pressed, both the indicator LEDs will remain dark, signifying that the system is in the ALL (default) mode. This mode permits everyone on the system to talk to each other, listen to music, and hear all radio communications.

3.2.3.4 Music and ICS Muting

The mute level is adjusted during installation. The tables below show the muting effects in each mode.

EFFECT ⇨	Effect on Crew Music Mute				Effect on PAX Music Mute		
ACTION ↓	All Mode	Crew Mode	PLT ISO		All Mode	Crew Mode	PLT ISO
PIL TX Key	Mute	N/A (already muted)	N/A (never muted)		Mute	No Mute	No Mute
COP TX Key	Mute				Mute	No Mute	N/A
RX Detect	Mute				Mute	No Mute	No Mute
PAX ICS	Mute				Mute	Mute	Mute
Pilot ICS	Mute				Mute	No Mute	N/A
Co-pilot ICS	Mute				Mute	No Mute	Mute

N/A= Not Affected by this action.

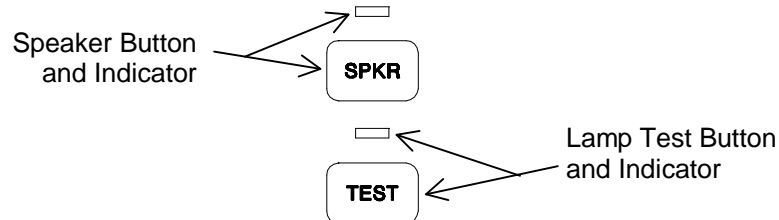
EFFECT ⇨	Effect on Crew ICS Mute				Effect on PAX ICS Mute		
ACTION ↓	All Mode	Crew Mode	PLT ISO		All Mode	Crew Mode	PLT ISO
PIL TX Key	Mute	Mute	No Mute		Mute	No Mute	No Mute
COP TX Key	Mute	Mute	N/A		Mute	No Mute	N/A

N/A= Not Affected by this action.

Notes:

- In **PLT ISO** mode the Crew consists of the Pilot only, and the Co-pilot is considered to be a passenger.
- The Pilot Radio audio is never muted.
- The RX and NAV Aid audio, and the PA output, are only muted by de-selecting them.

3.2.4 Speaker and Test Buttons



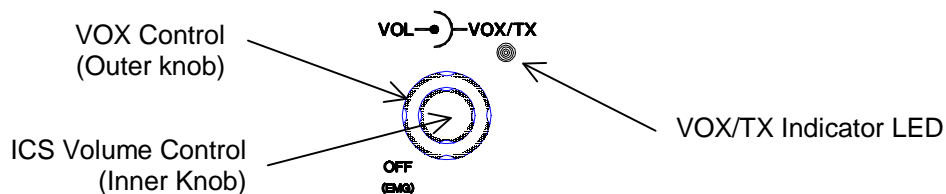
3.2.4.1 **SPKR** (Speaker Button)

Radio audio to a cockpit speaker can be switched on and off via the **SPKR** push-button. Turning on the cockpit speaker will have no effect on headset audio. Only the direct audio and audio from the Receive selections (**not** intercom, music, or Transmit selection audio) is available to the speaker. A green LED above the push-button is illuminated to indicate that the speaker is on. Headset audio always remains on and can not be defeated.

3.2.4.2 **TEST** (Lamp Test Button)

This button enables the operator to confirm correct operation of all the front panel indicator lights except the VOX/TX LED (see section 3.2.5.1). The lights will illuminate for as long as the button is pressed in.

3.2.5 Volume and VOX/TX Control



The **VOX/TX** and **ICS** volume control for the Crew and Passenger groups consists of a double knob – the inner knob controls the ICS volume, and the outer knob controls the sensitivity of the VOX circuit.

3.2.5.1 **VOX/TX** Indicator LED

The VOX/TX indicator is a bicolor LED located in the upper right corner of the panel. The LED will illuminate amber to indicate any transmit activity, and will illuminate green to indicate that the VOX squelch circuit has been triggered. The TX LED (amber) always overrides the VOX LED (green) in any mode.

TX Indication

The LED will illuminate amber to indicate any transmit activity (when a radio PTT has been triggered), and will also indicate a stuck Mic (PTT) if it remains lit after transmission is concluded. The amber LED is only on during Pilot or Co-pilot TX Key in **ALL** and **CREW** mode, and only on for the Pilot TX Key in **PLT ISO** mode.

VOX Indication

The LED will illuminate green to indicate that the VOX squelch circuit has been triggered. It can be used to set the VOX threshold by turning the ICS volume control knob counter-clockwise until the LED turns green, and then rotating the control clockwise until the LED goes dark. Continue turning the knob clockwise until the desired voice sensitivity is reached.

The table below shows how the illumination of the LED varies in each ICS mode.

	VOX LED (Green)		
	All Mode	Crew Mode	Pilot ISO
PAX ICS	On	Off	On
Pilot ICS	On	On	Off
Co-pilot ICS	On	On	On

3.2.5.2 Manual Fail-safe

Manual fail-safe operation is available in the event of a partial failure. If the ICS volume control is turned counter-clockwise until it clicks, it will route the pilot directly to the COM1 radio and the unswitched direct audio inputs, and turn the system off for the Co-pilot and Passengers.

3.2.6 Marker Beacon

The AMS50 contains a built-in Marker Beacon receiver with a three light display. The upper (white) light marked 'A' will illuminate when the signal from the 'Approach' beacon is received, the centre (blue) light marked 'O' will illuminate at the 'Outer' beacon, and the lower (amber) light marked 'M' will illuminate at the 'Middle' beacon.

3.2.6.1 Sensitivity Button (SENS)

The switch to the right of the 'A' light is used to select between HI and LO for the sensitivity of the Marker Beacon receiver, and either the HI or LO LED above the switch will illuminate green to indicate the current selection.

3.2.7 Optional Features

At installation, COM3 can be configured as a telephone interlock. The ringer of the telephone can be connected through a Direct input, if required.

Selecting the COM3 RX Select switch, provides the ability to monitor phone conversation. To answer the phone or make a call, choose the COM3 TX selection.

This causes the respective (selected) crew's microphone to become 'hot' when selected from the front panel with no need for the operator to activate the PTT switch. The COM3 input can only be a COM radio or a Telephone, but not both in the same installation.

End of section 3.0

PRELIMINARY